ACCESSION #: 9902190035

NON-PUBLIC?: N

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Harris Nuclear Plant, Unit 1 PAGE: 1 OF 3

DOCKET NUMBER: 05000400

TITLE: Reactor trip due to not removing a temporary device from

a relay following calibration.

EVENT DATE: 01/14/1999 LER #: 1999-002-00 REPORT DATE: 02/12/1999

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:

50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:

NAME: Mark Ellington, Senior Analyst - TELEPHONE: (919) 362-2057

Licensing

COMPONENT FAILURE DESCRIPTION:

CAUSE: SYSTEM: COMPONENT: MANUFACTURER:

REPORTABLE TO EPIX:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

At approximately 09:18 on January 14, 1999, with the unit at 100% power, personnel performing a relay calibration failed to remove a temporary blocking device prior to reinstalling the relay. This blocking device simulated a continuous trip signal on the output of the undervoltage timing relay; therefore, reinstalling the relay simulated an undervoltage trip signal to the associated bus. Loads powered from this bus included one

of the plant's three Reactor Coolant Pumps (RCPs) and the feeder breaker for another bus, which also powered one Reactor Coolant Pump. This loss of power to two of the plant's three RCPs (while above 10% power) satisfied the logic for an automatic reactor trip. Safety systems functioned as required, including the automatic start of the three auxiliary feedwater pumps.

Although the procedure for performing the calibration activity directed the technicians to remove the blocking device, the individuals failed to do so. The root cause of this event is human error attributed to the way the technicians were using the procedure (i.e., although one of the technicians had a copy of the procedure in his hand, the technicians were performing some steps from memory). Corrective actions taken have been: 1) Counseled the personnel involved in this event, including their supervision; 2) Conducted a stand-down meeting for site personnel on this and other recent human performance events, and; 3) Created a high-visibility device to be used as a blocking device when calibrating relays. Planned corrective actions include: 1) Revision of the applicable procedure (PIC-E070) to provide more specific guidance on steps applicable to these types of relays.

I. DESCRIPTION OF EVENT

At approximately 09:18 on January 14, 1999, personnel performing a relay calibration failed to remove a temporary blocking device prior to reinstalling the relay, which caused an automatic reactor trip from 100% power. The type of relay was a timing relay (EIIS: RLY 62; General Electric 12SAM11B22A) for a 6.9kV Auxiliary Bus undervoltage trip circuit. If left in place, the blocking device simulates a continuous trip signal on the output of the undervoltage timing relay; therefore, reinstalling the relay simulated an undervoltage trip signal to the associated bus. Loads powered from this bus include one of the plant's three Reactor Coolant Pumps (RCPs), the 1A -NNS Reactor Coolant Pump. Another of the loads on the bus was a feeder breaker for a separate 6.9kV bus, which powered another Reactor Coolant Pump. This loss of power to two of the plant's three RCPs (while above 10% power) satisfied the logic for an automatic

reactor trip due to an undervoltage signal on two of the three RCP buses. Safety systems functioned as required. In addition to there actor trip, an automatic start of the three auxiliary feedwater pumps occurred (i.e., an Engineering Safety Features actuation signal). This actuation is an expected response following a trip from full power.

II. CAUSE OF EVENT

The root cause of this event is human error attributed to the way the technicians were using the procedure. The procedure for performing the calibration activity (PIC-E070) directed the technicians to remove the blocking device; however, the individuals failed to do so. Although one of the technicians had a copy of the procedure in his hand, the technicians were performing some steps from memory. They were aware that the device needed to be removed, but forgot to do so. Contributing causes were: overconfidence on the part of the technicians; blocking device not being constructed of a highly-visible material, and; the lack of specific procedure guidance regarding which steps were applicable to the specific type of relay.

III. SAFETY SIGNIFICANCE

This event resulted in a loss of forced circulation in two of the three RCS loops. This occurrence resulted in a decreased margin to safety, from a Departure from Nucleate Boiling (DNB) perspective; however, the margin was not reduced to the design limit. The plant was maintained within its design basis for the postulated loss of flow scenarios. Section 15.3 of

the Harris Final Safety Analysis Report includes analyses for partial loss of RCS flow events. The plant safety systems responded as required. There was no degradation in the protection of the public health and safety. This event did not result in any radiological release.

This LER is being submitted pursuant to the requirements of 10 CFR 50.73 (a)(2)(iv) for an unplanned Reactor Protection System and Engineering Safety Features (RPS/ESF) actuation.

IV. CORRECTIVE ACTIONS

Completed corrective actions:

1. Counseled the personnel involved in this event, including their supervision;

2. Conducted a stand-down meeting for site personnel on this and other recent human performance events, and;

3. Created a high-visibility device to be used as a blocking device when calibrating relays.

Planned corrective actions include:

1. Revision of the applicable procedure (PIC-E070) to provide more specific guidance on steps applicable to these types of relays.

V. SIMILAR EVENTS

A search of the Harris corrective action program data base and a separate industry event search has yielded no similar occurrences dealing with failure to remove relay blocking devices.

CP&L

Carolina Power & Light Company

Harris Nuclear Plant

P.O. Box 165

New Hill NC 27562

U.S. Nuclear Regulatory Commission Serial: HNP-99-016

ATTN: NRC Document Control Desk 10CFR50.73

Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1

DOCKET NO. 50-400

LICENSE NO. NPF-63

LICENSEE EVENT REPORT 1999-002-00

Sir or Madam:

In accordance with 10CFR50.73, the enclosed Licensee Event Report is submitted. The report describes a reactor trip caused by human performance during a maintenance activity.

Sincerely,

B.H. Clark

General Manager

Harris Plant

CWF

Enclosure

c: Mr. J. B. Brady (HNP Senior NRC Resident)

Mr. L. A. Reyes (NRC Regional Administrator, Region II)

Mr. S. C. Flanders (NRC - NRR Project Manager)

5413 Shearon Harris Road New Hill NC

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